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PATENT
09/819,109REMARKS

Claims 1 – 30 are presented for examination. In the Office Action mailed on June 23, 2004, the Examiner rejected Claims 1 and 3 – 10 under 35 U.S.C. §103(a) as being unpatentable over Ding (U.S. Patent No. 5,838,787) in view of McLaughlin (U.S. Patent No. 5,526,426); Claim 2 under 35 U.S.C. §103(a) as being unpatentable over Ding in view of McLaughlin, and further in view of Umemoto (U.S. Patent No. 5,416,829); and Claims 11 – 30 under 35 U.S.C. §103(a) as being unpatentable over Romesburg (U.S. Patent No. 6,148,078) in view of Ding and McLaughlin. In light of found new art, the Examiner has withdrawn the statement regarding the allowability of Claims 5 and 15. The Applicants respectfully traverse the Examiner's rejections.

35 U.S.C. §103(a): Claims 1 and 3 – 10

The Examiner states that Ding teaches all of the features of the instant claims except for computing a coherence estimate on a block of transmit signal samples and a block of receive signal samples, wherein each block of samples comprises samples from a previous block and a new samples. However, the Examiner further states that McLaughlin teaches this missing feature at col. 5, lines 37 – 41. The Applicants respectfully disagree. As cited by the Examiner, McLaughlin specifically teaches:

“a frequency-domain adaptive filter 100 is shown wherein a received input signal R_n is presented along an input line 1 in the form of a serial stream of digitized samples of an analog input signal. A serial to block (S/B) converter 31 gathers the digitized samples R_n into blocks of $N/2$ samples, and concatenates a current block of R_n samples with the previous block of R_n samples to form an N -sample real vector R_o .”

The above cite from MacLaughlin teaches the manipulation of a current block of received samples and a past block of received samples. However, the instant claims are for performing a *coherence estimate* on a block of *transmit* signal samples *and* on a block of *receive* signal samples to detect the network echo, wherein each block of samples comprises samples from a previous block and new samples. The Applicants respectfully submit that McLaughlin does not teach this specific feature.

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MacLaughlin does not teach the performance of a coherence estimate on a block of transmit signal samples and a block of receive signal samples.

Instead, MacLaughlin shows that a frequency representation X_i of the input R_i is correlated with an error signal e_i that is derived from a clean transmit signal. The error signal e_i is then used to adapt the model 12 of the adaptive filter. (MacLaughlin, col. 6, lines 44 – 48.) The adaptive filter adapts the coefficient vectors H_i , which are subsequently convolved with the frequency representation X_i of the input R_i to determine an approximation of an echo Y . (MacLaughlin, col. 7, lines 6 – 23.)

Hence, the Applicants respectfully submit that Ding in combination with MacLaughlin do not teach all the features of the instant claims.

Moreover, note that MacLaughlin teaches the use of adaptive filters to determine an echo. This is an alternative methodology to that of coherence estimation. It would make sense to one of skill in the art to implement one or the other, but not both. Hence, the Applicants respectfully submit that Ding and MacLaughlin would be not a suitable combination for improving acoustic and network echo cancellation procedures.

For the reasons stated above, the Applicants respectfully submit that the instant claims are patentable over Ding and MacLaughlin.

35 U.S.C. §103(a): Claim 2

Since Ding and MacLaughlin do not teach all the features of Claim 1 as discussed above, and dependent Claim 2 incorporates all the features of Claim 1, the Applicants respectfully submit that Claim 2 is also patentable.

35 U.S.C. §103(a): Claims 11 – 30

The Examiner stated that Romesburg teaches all the elements of Claim 11 except the element wherein the attenuated network echo is passed to said acoustic echo canceller and the element wherein the coherence estimate is computed on a block of samples, wherein each block of samples comprises samples from a previous

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block and new samples. However, the Examiner believes that Ding and MacLaughlin teaches said missing features.

The Applicants respectfully submit MacLaughlin does not teach the missing feature of computing a coherence estimate on a block of transmit signal samples and on a block of receive signal samples to detect a network echo, wherein each block of samples comprises samples from a previous block and new samples. The Applicants further submit that MacLaughlin should not be combined with the references of Ding and Romesburg because MacLaughlin is directed to adaptive filters, whereas Ding and Romesburg are not. The Applicants' rationale is presented above under the arguments for Claims 1 and 3 - 10.


CONCLUSION

In light of arguments presented above, the Applicants respectfully submit that the instant claims are patentable. Accordingly, reconsideration and allowance of this Application is earnestly solicited. Should any issues remain unresolved, the Examiner is encouraged to telephone the undersigned at the number provided below.

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